

WHAT IS CLAIMED IS:

1. An epoxy resin composition for packaging a semiconductor element, obtained by formulating:

- (A) phenol aralkyl type of epoxy resin having a biphenylene unit in the main chain;
- (B) a phenolic resin;
- (C) a curing accelerator;
- (D) an inorganic filler; and
- (E) an oxidized polyethylene wax having a drop point within a range of from 60 to 140 degree C, an acid value within a range of from 10 to 100 (mg KOH/g), a number average molecular weight within a range of from 500 to 20,000, and a mean particle size within a range of from 5 to 100 μm .

15 2. An epoxy resin composition for packaging a semiconductor element, obtained by formulating:

- (A) an epoxy resin;
- (B) a phenol aralkyl type of phenolic resin having a biphenylene unit in the main chain;
- (C) a curing accelerator;
- (D) an inorganic filler; and
- (E) an oxidized polyethylene wax having a drop point within a range of from 60 to 140 degree C, an acid value within a range of from 10 to 100 (mg KOH/g), a number average molecular weight within a range of from 500 to 20,000, and a mean particle size within a range of from 5 to 100 μm .

3. The epoxy resin composition for packaging a semiconductor element, according to claim 2,

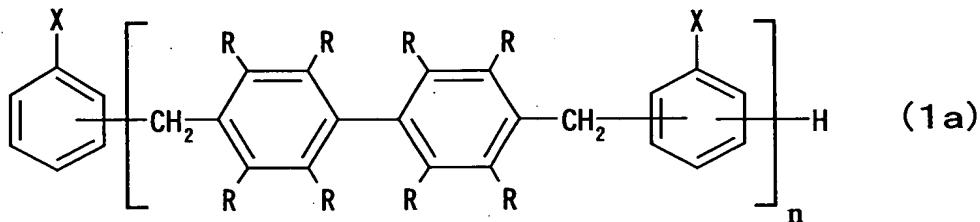
wherein the said (A) epoxy is a phenol aralkyl type of epoxy resin having a biphenylene unit in the main chain.

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4. The epoxy resin composition for packaging a semiconductor element, according to claim 1,

wherein the said (A) epoxy resin has a structure represented by general formula (1a):

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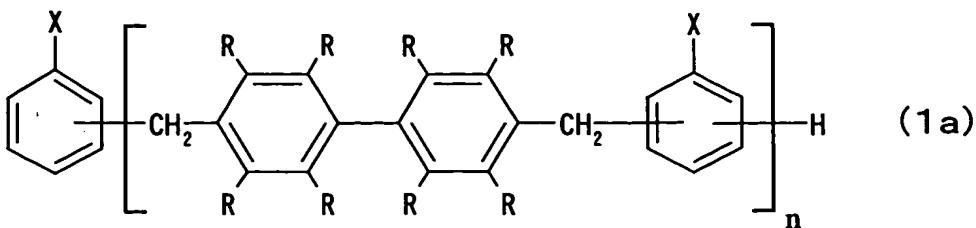


(wherein, Rs, each of which may be same or different, represents a hydrogen atom or functional group selected from alkyl groups having 1 carbon to 4 carbons; X represents glycidyl ether group; and n represents a positive number more than or equal to 1.)

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5. The epoxy resin composition for packaging a semiconductor element, according to claim 2,

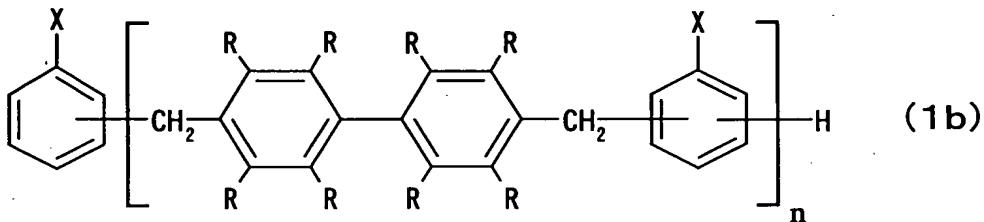
wherein the said (A) epoxy resin has a structure represented by general formula (1a):



(wherein, Rs, each of which may be same or different, represents a hydrogen atom or functional group selected from alkyl groups having 1 carbon to 4 carbons; X represents glycidyl ether group; 5 and n represents a positive number more than or equal to 1.)

6. The epoxy resin composition for packaging a semiconductor element, according to claim 1,

wherein the said (B) phenolic resin has a structure
10 represented by general formula (1b):

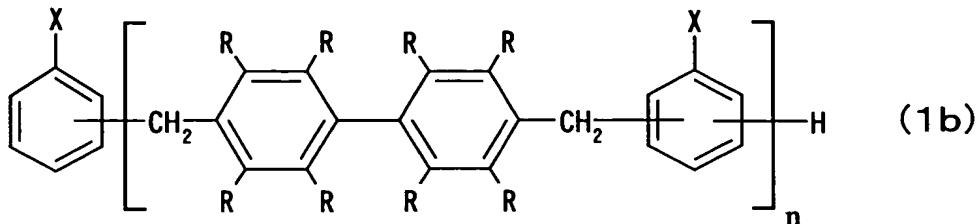


(wherein, Rs, each of which may be same or different, represents a hydrogen atom or functional group selected from alkyl groups having 1 carbon to 4 carbons; X represents hydroxyl group; and 15 n represents a positive number more than or equal to 1.)

7. The epoxy resin composition for packaging a semiconductor element, according to claim 2,

wherein the said (B) phenolic resin has a structure

represented by general formula (1b):



(wherein, R, each of which may be same or different, represents a hydrogen atom or functional group selected from alkyl groups

5 having 1 carbon to 4 carbons; X represents hydroxyl group; and n represents a positive number more than or equal to 1.)

8. The epoxy resin composition for packaging a semiconductor element, according to claim 1,

10 wherein content of said (E) oxidized polyethylene wax in said epoxy resin composition is within a range of from 0.01 to 1 % wt.

9. The epoxy resin composition for packaging a semiconductor element, according to claim 2,

15 wherein content of said (E) oxidized polyethylene wax in said epoxy resin composition is within a range of from 0.01 to 1 % wt.

20 10. A semiconductor device, which is formed by employing said epoxy resin composition according to claim 1 to package a semiconductor element included therein.

11. A semiconductor devic , which is formed by employing said epoxy resin composition according to claim 2 to package a semiconductor element included therein.